

QH
1
A612
NH

ANNALS
OF
KENTUCKY NATURAL HISTORY

VOL. 1, ART. 1
SEPTEMBER 27, 1941

NH

SEPTEMBER 27, 1941

Published by the Natural History Club, Louisville, Kentucky

Address correspondence to the Editor, William M. Clay, University of Louisville,
Louisville, Kentucky.

By J. S. McHargue, Ph.D.

†The author made a trip on October 2, 1940 to the place where he first saw wild cane in his youth and found bunches growing sparsely, some of which were six feet or more tall and the stalks were about one-half inch in diameter at the base. One of the largest bunches was taken up and transplanted in the Botanical Garden at the University of Kentucky.

349200

SMITHSONIAN

JUN 17 1953

LIBRARY

my part with respect to both bluegrass and canebrakes. Since then I have made a perusal at odd times of those historical records which contain a description of the flora of central Kentucky previous to pioneer times, and are available at the local libraries. In the meantime brief publications pertaining to bluegrass¹ and canebrakes² have been made.

Dr. Thomas Walker in 1750³ was the first white man of whom we have an authentic record* to lead a party of explorers into the wilderness west of the Alleghany Mountains. He reports that some of the horses in their party became sick from eating too much wild cane while they were on the head waters of Cumberland River. Since Dr. Walker's explorations did not extend farther west on his first trip than the Rockcastle River it appears that he did not come in contact with the most luxuriant canebrakes in Kentucky at that time.

In 1754 John Finley⁴ and a party of traders made their way from North Carolina west into a region called Dark and Bloody Ground by the Indians. Apparently Finley and his party encountered a hostile attitude by the native Indians and they were advised to return to their homes and remain on the other side of the mountains. Undoubtedly, Finley and his party passed through much cane land on their trip west. Upon returning to his home Finley gave a glowing account of his adventures beyond the mountains to Daniel Boone. Several years later, 1769, a party consisting of Finley, Boone, Stewart, Halden, Monay and Cool was organized to make explorations into the region from which Finley had been previously ordered to stay away. On May 1, 1769, the party left their homes in North Carolina and made their way through the wilderness, often hiding from the hostile Indians in dense canebrakes which occurred in great abundance as they proceeded westward.

On June 7, 1769, they arrived on Red River, which bordered on the Dark and Bloody Ground. From the top of an elevation the party reported they beheld the most beautiful and wonderful landscape they had ever seen. They camped near this point, in Powell county, for some time and Boone and Finley made extensive explorations into the surrounding wilderness, which far exceeded

*Undoubtedly, several white men had been in the region west of the Alleghany mountains previous to Dr. Walker's expedition, See Collins' History of Kentucky. Dr. Walker made a second trip to Kentucky in 1758.

their expectations. "We found everywhere abundance of wild beasts of all sorts through this vast forest. The buffaloes were more frequent than I have seen cattle in the settlements, browsing on the leaves of cane" Finley and Boon made their way down the Kentucky River to the mouth of Dix River, where they parted and according to Bruce⁵ they did not meet again.

The first road or trail across the Alleghany Mountains into Kentucky has always been known as Boone's Trail.⁶ It was cut from Long Island on the Holston River in North Carolina to Boonesboro on the Kentucky River. The officers of the Transylvania Company made a bargain with Daniel Boone to go before and open this road. Captain Twetty's company of eight persons joined Col. Boone's which included Squire Boone, Col. Richard Calloway, John Kennedy and eighteen others, making 30 in all. The company began their task of marking the trail at Long Island and continued until they reached the Rockcastle River. Thence for twenty miles they had to cut their way through a country entirely covered with dead brush, probably caused by a forest fire. The next 30 miles were

"through thick cane and reeds* and as the cane ceased they began to discover the pleasing and rapturous appearance of the plains of Kentucky. A new sky and a strange earth seemed to be presented to their view. So rich a soil they had never seen before, covered with clover in bloom. The woods were abounding in wild game, turkeys so numerous that it might be said they appeared but one flock universally scattered in the woods. . . ."

In 1776 General Levi Todd⁷, who was a companion of Daniel Boone on many of his explorations in Kentucky, wrote in a "Narrative of Transactions in Kentucky from 1774 to 1777" the following statement:

"Here I will take time to digress from a regular detail of facts by observing that the face of this country was at the time I have been speaking of, delightful beyond conception, nearly one-half of it covered with cane, but between the canebrakes, spaces of open ground, as if intended by nature for fields, the ground appeared extremely fertile, and produced amazing quantities of weeds of various kinds, some wild grasses, wild rye and clover. . . ."

In 1779 John Filson⁸ came to Lexington, Kentucky, and engaged in teaching school for about five years. In the meantime he prepared and published in 1784 the first history and also the first map

*It can be assumed that this canebrake had a considerable width, otherwise Boone would have led his party around it.

of Kentucky. The title of the book is "The Discovery, Settlement and Present State of 'Kentucke' and An Essay Towards the Topography and Natural History of that Important Country" to which is added an Appendix containing, I. "The adventures of Col. Daniel Boone, one of the first settlers, comprehending every important occurrence in the political history of that province . . ."

The information contained in Filson's history of Kentucky was endorsed by Daniel Boone, Levi Todd and James Harrod, who were among the first settlers in Kentucky and from whom Filson obtained much of the information contained in the first history of Kentucky.



Fig. 1. Filson's map of Kentucky showing the location of dense canebrakes in 1784. The arrows indicate the cane lands.

On page 23 Filson discusses the flora as he observed it and says:

"Here is great plenty of fine cane, on which the cattle feed and grow fat. This plant in general grows from three to twelve feet high of a hard substance, with joints at eight to ten inches distance along the stalk, from which proceed leaves resembling those of willow. There are many canebrakes so thick and tall it is difficult to pass through them."

At the time this map was published (1784) the country which was then called "Kentucke" was divided into three counties, Fayette, Jefferson and Lincoln, (See Fig. 1). The territory lying between points where Paris, Falmouth and Cynthiana now are, on Filson's map is labeled "Fine Cane Land." The country lying between Hingston and Stoner Creeks is labeled "abundance of cane." The region of the head waters of Salt River is labeled "Fine Cane." The region lying north of Elkhorn Creek is also labeled "fine cane." It is to be assumed that these areas thus labeled "Cane Land" and "Fine Cane" on Filson's map, included considerable stretches of country and that the canebrakes were larger and taller at these various points. It is also to be assumed that much cane occurred between areas thus labeled but probably of sparser and of smaller growth.

The following description of a canebrake is quoted from the Autobiography of James B. Finley⁹:

"My father, Robert W. Finley, with his family, landed at Maysville, Kentucky, late in the fall of 1788. He spent the winter at Washington, in Mason County, and moved to Flemingsburg where he remained for one season and then moved to Bourbon County, Kentucky. He settled in the spring of 1790 on what was then called the Cane Ridge.

"The land purchased by my father was a part of an unbroken canebrake extending for twenty miles toward what was called the Little Mountain (now Mount Sterling). We had to cut out roads before we could haul the logs to build our cabins. The cane was so thick and tall that it was almost impossible for a horse or a cow to pass through it. We first cut the cane and gathered it in piles to be burned. This was performed by a cane-hoe. The next thing was to plow, which was done by first cutting the cane roots with a coulter, fastened to a stock of wood, which was called the blue boar. This turned no furrow, and hence it was necessary to follow it with the bar shear, which turned over the sod."

Rogers¹⁰ gives the following account of Rev. Robert W. Finley and the building of the Cane Ridge Meeting House in 1791:

"Finley (Robert W.) meeting Col. Daniel Boone, whom he had known before, both being natives of Berks County, Pa., on one of his return trips to his old home from Kentucky, hearing a glowing account of the fertility

of its lands, having laid aside the equipment of war with the emergency which brought it forth, resumed his former ministerial paths, which had been so ruthlessly encumbered 'by grim-visaged war', organized a small party of his neighbors, including two of his brothers, penetrating the wilds of an unbroken forest to see for himself this abounding land, in the season of 1784. He saw a country marvelously rich, teeming with an unlimited growth of splendid timber of every known variety, watered by innumerable springs and streams, with all description of game common to the latitude, that he beheld with wonder and satisfaction, the ideal of the pioneer and settler, the hunter and trapper. He returned to his home enthusiastic over the prospects of an immediate removal to the brakes of Kentucky, where he had seen a growth of cane of great area, green and succulent the entire year, affording the richest pasturage for stock in the winter months, and when removed from the surface which it cumbered, exposing a soil for opulence and productiveness not surpassed.

"However, it was not until late in the fall of 1788 that Finley with his family arrived at Limestone (now Maysville), Kentucky and went into winter quarters at Washington, Mason County, Kentucky a few miles away. In the following spring, 1789, Finley bought land near the present site of Flemingsburg, but he and his family were not content with this location, sold their property at Flemingsburg and purchased in the spring of 1790 a portion of a canebrake eight miles northeast of Paris in Bourbon County, which he named Cane Ridge. Comfortable log cabins were built, the cane cut away and corn planted in time to mature that season. The year following, 1791, the meeting house at Cane Ridge and its most potent ally, the log cabin seminary*, were built. . . ."

The suggestion is tendered that the canebrake occupied by Finley and his companions was 8 to 10 feet in height, and was an unbroken stretch to Little Mountain, the present site of Mt. Sterling, fifteen miles in an air line, and perhaps half as wide; that it was the favorite lair of every known variety of game, from the common gray squirrel to the buffalo, and that the water courses abounded with fish.

An account of the building of the Cane Ridge Church and Seminary is recorded in the manuscript left by an itinerant minister (Mr. Peter Houston, as quoted by his grandson, F. P. Houston) who lent his aid. He mentions that after suitable timber had been selected, cut, hewn and notched, where it fell, owing to the excessive growth of cane, from eight to ten feet in height, and to its density, in order to find the location for the building it was neces-

*The Seminary was struck by lightning five years later and burned down. The Church has been kept in good repair, is still standing and is used during the summer season at the present time.

sary for men to climb trees to direct the hauling of the prepared material to the proper place.

In 1793 Imlay¹¹ wrote a book entitled "A Topographical Description of the Western Territory of North America" in which he gives a description of wild cane and its importance as a forage plant as it occurred in Central Kentucky at that time. He says,

"From Limestone (now Maysville) to Licking Creek the country is immensely rich and covered with cane, rye grass and the native clover. The cane is a reed which grows to the heights of frequently 15-16 feet,* but more often generally about 10-12 feet, and is in thickness from the size of a goose quill to that of two inches in diameter. Sometimes, yet seldom, it is larger. When it is slender it never grows higher than from four to seven feet. It shoots up from the ground in one summer, but produces no leaves until the following year. It is an evergreen and is, perhaps, the most nourishing food for cattle upon earth. No other milk or butter has such flavor and richness as that produced from cows which feed upon cane. Horses which feed upon it work nearly as well as if they were fed upon corn, provided care is taken to give them once in three or four days a handful of salt, otherwise this food is liable to heat and bind their bowels."

An early account of the Fort at Lexington taken from an interview with John Wymore, Jr.^{‡12} contains the following interesting statements. "My father, John Wymore, came out with his family to Lexington in the fall of 1779." Describing an attack on the fort by a small band of Indians, he says

"The cane was so thick my father and Donnolly could not be shot at till they got into the open woods, near the fort. There was a large forked wild cherry somewhere about where the Court House is now. Donnolly got behind this and shot at the Indians. When the men sallied out, the Indians (of which there were only seven or eight) immediately retreated again into the cane. . . . The cane was cleared away around the fort, for about seventy or eighty yards."

*Cummings' Tour, Early Western Travels, 1748-1846, Thwaites Chapter 25, page 178. "He† said that the whole country was then an entire canebrake, which sometimes grew to forty feet high, but that the domestic animals introduced by the settlers have eradicated the cane, except in some remote and unsettled parts of the state. He described that plant as 'springing up with a tender shoot like asparagus, which cattle are very fond of'."

†The person referred to is Captain John Waller, one of the party from Virginia associated with Simon Kenton, 1775-76. He resided at a town named Millersburg at the time 1807-1809.

‡Quoted from a mss. loaned to the author by Mrs. Charles R. Staples, Lexington, Ky.

William Stickney¹³ writing in 1872 of his father-in-law, Amos Kendall, who was a pioneer in Kentucky, gives the following description of the original site of Lexington, Kentucky

“Originally, the site of Lexington and the surrounding country was covered with heavy timber under which was a thick growth of cane so intertwined with pea-vine as to be almost impenetrable to man and beast. The leaf of the cane very much resembles that of Indian corn but not as long or broad, and it constituted the favorite food as well of the buffalo as of domestic cattle. As soon as the latter, cattle, became numerous, they grazed the cane so closely as to kill it as well as the pea-vine, leaving the forest without any undergrowth. The cane and vine were soon replaced by a thick and luxuriant growth of bluegrass; affording perhaps the richest pasture in the world, as beautiful to look upon and wonder over as pleasure grounds kept in order by incessant labor in other regions.”

Major George Michael Bedinger¹⁴ in 1778 made explorations and later surveys in the Green River Valley and his records show dense canebrakes in this part of Kentucky.

Killebrew¹⁵ published, in 1878, a book entitled “Grasses, Cereals and Forage Plants of Tennessee” in which he gives the following description of cane:

“Cane, or American bamboo, grows throughout the southern United States. The northern limits of its distribution are Maryland, the Ohio River and Missouri. It is one of the largest grasses and apparently prefers moist, fertile land and often forms dense brakes along streams and in river bottoms; however, the smaller variety commonly known as switch cane is often found growing on well-drained hills and ridges. Consequently, many small streams, churches, schools and villages in Kentucky and elsewhere have received such names as Cane Ridge, Cane Creek, Cane Valley, Caneyville, Caney and Cane Springs.

“American bamboo has the generic name *Arundinaria*. There are two species, *A. macrosperma*, and *A. tecta*, which are distinguished from each other chiefly by their size. *A. macrosperma* is quite large and attains a height of twenty to thirty feet. This variety is usually found in lowlands along banks of streams, whereas *A. tecta* is often found on low hills and ridges as well as on lowlands along streams. Cane is unique among the grasses in having woody stems from the joints of which are borne fascicled leafy branches. Cane does not flower regularly but propagates extensively by underground rootlets. The stems of the smaller variety are used for switches and pipestems, and the stalks of the larger variety are used for fishing poles and more recently for flag poles on golf links. The leaves are linear, smooth, green and are greedily eaten by horses and cattle. This type of forage was quite an asset to stockmen in early times who drove their cattle to the brakes and allowed them to browse in the canebrakes which afforded them some protection from cold weather as well as forage upon which they did well for several months when little or no other wild grazing was available.

"When the first settlers came to Tennessee, the whole face of the country was covered with cane, and while it existed, afforded abundant pasturage to stock of all kinds, both winter and summer. The shoots of young cane are both succulent and nutritious. Not only are they eaten by beasts but, when young and tender, they are boiled and eaten by man.

"In 1812 and again in 1864 a famine was averted in India by the opportune seeding of the cane, the people gathering the seeds and boiling and eating them like rice. The cane requires about thirty years to mature and form the seed, then the plant dies, and other plants again spring up from the roots. The mature stalks have a coating of almost pure silex, and were used by the aborigines for knives, cups, fans, tables, bedding, wigwams, etc. Like all other grasses it grows from the center, and though it has graminaceous affinities in all of its internal structure, it partakes of the nature of a tree in some varieties. It varies in diameter from one-quarter of an inch to three inches, and in Asia eight inches, and attains a height of forty and even fifty feet. It belongs to the same family as the bamboo of the Asiatic and African jungles. In those countries it is applied to more purposes than any other species of vegetation, and is regularly cultivated. It is there planted in the spring or autumn and is considered ready for cutting at the end of four or five years. Some of the most delicious sweetmeats we have are made from the young and tender shoots of the cane by the Chinese. The family of cane comprises twenty genera and one hundred and seventy species. The switch cane is the seedling, and as the roots become older, they produce from year to year larger stems, provided it is not too much grazed and trodden, in which case it dwarfs and remains switch cane until it flowers, seeds and dies.

"The only uses to which it is applied here are for pipestems, fishing-poles and for making baskets. It forms most excellent winter pasturage, besides sheltering stock from the inclemency of the weather. Several large farmers in Middle Tennessee still (in 1878) have their pastures of cane. Almost any portion of Middle Tennessee, if enclosed and unused, will soon send up small cane, and if unmolested until it attains some size it will stand very constant grazing. In the bottoms of West Tennessee, in some of the valleys of East Tennessee and on some isolated spots in Middle Tennessee it yet exists in pristine beauty. But it is fast disappearing with wild game, before the encroachments of the plow. One of the grandest and most sublime sights to be seen, is the burning of a canebrake at night. Sounds, as if a terrific battle raged are heard and a blaze goes up which illuminates the country for miles around and effectually destroys all vegetation within its fiery circle."

"It grows best on the richest land, but if the poorest soil is once set with it, it acts as a fertilizer. This is to be attributed to its wonderful network of roots, the immense foliage it deposits on the soil, and to its dense shade. It is a very difficult matter to break up cane land, but once broken, it quickly rots and adds to the fertility of the soil. The roots run to a surprising length and depth, and serve as pumps to raise dormant fertilizing principles from below the reach of any plow."

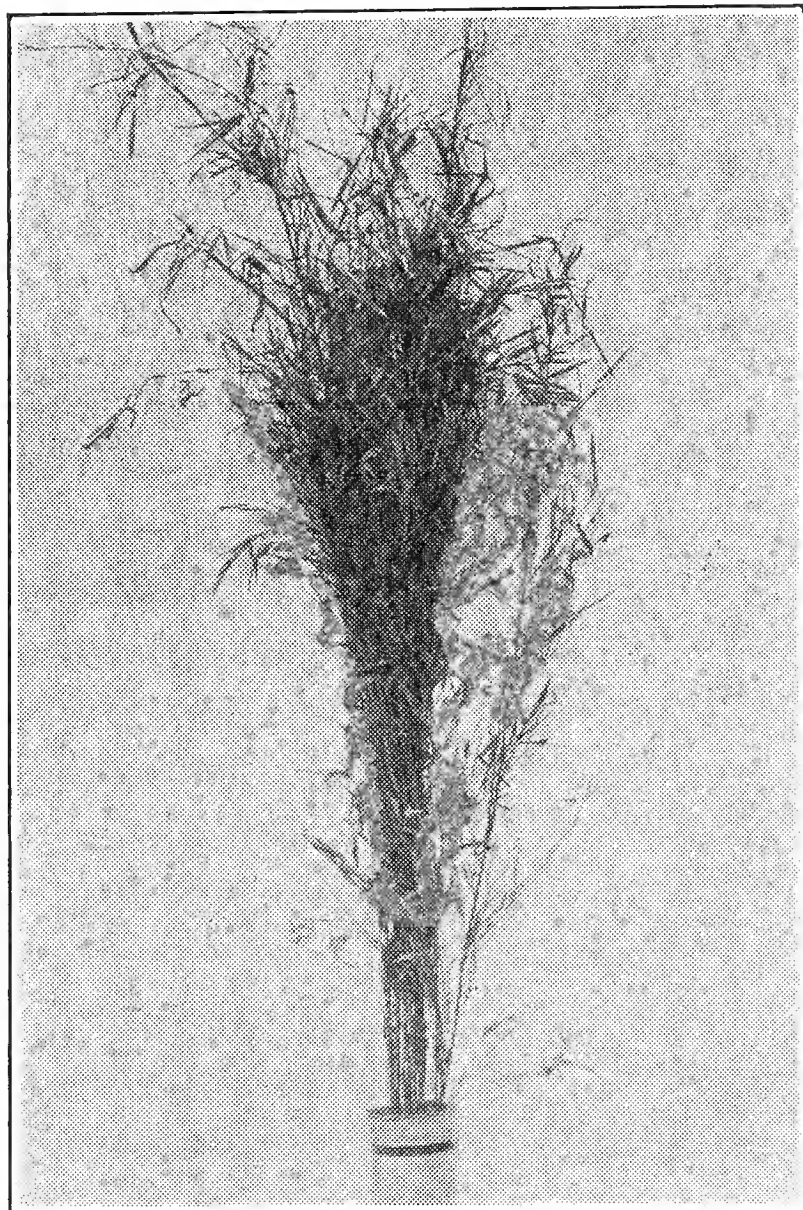


Fig. 2. A bunch of cane about ten feet tall, collected in Powell County, Kentucky, 1927.



Fig. 3. Remnants of canebrakes as they occur today, November, 1940.

The foregoing photographs (Fig. 2 and 3) were made of a bunch of cane and some canebrakes as they are found in a few inaccessible places in Kentucky at the present time. These plants grew in a clay loam soil which was derived from sandstone formation. However, the cane thrives well on soils derived from limestone formation.

For the purpose of obtaining more definite knowledge concerning the allaged nutritional value of wild cane, a sample was collected and brought to the chemical laboratory of the Kentucky Agricultural Experiment Station during the latter part of the summer of 1927. The sample was obtained from near Irvine, in Estill County, Kentucky. The cane plants were separated into three parts, stems, branches and leaves, for chemical analyses. A sample was prepared also, of half a dozen or more young shoots about two feet long which represented the growth attained from springtime to the time they were collected. As previously described, the shoots spring up early in the season and make a rapid growth the first year but do not bear leaves or branches. In the early part of the season the stalks are quite tender and it is alleged that they have been used as food by man and found to be highly nutritious. After the samples were prepared for analysis, quantitative determinations were made on different parts of the plants.

Table No. 1 shows the results obtained in the analyses which represent the various constituents in percent of the moisture-free material.

TABLE I

	Leaves Samp. 1	Leaves Samp. 2	Branches	Stalks	Young Stalks	Sheathe from young stalks
Ash	8.56	10.80	6.090	2.546	6.570	6.776
Silica, SiO ₂	7.89	8.165	3.968	.717	.340	2,826
Iron, Fe .....	.019	0.0316	.025	.007	.056	.047
Manganese, Mn .....	.016	.001	.001	.0007	.002	.007
Calcium, Ca .....	.456	.237	.086	.0002	.124	.138
Magnesium, Mg .....	.310	.145	.081	.0003	.622	1.820
Phosphorus, P .....	.207	.230	.114	.073	.305	.200
Potassium, K	1.100	1.720	1.100	.954	n. e.	1.610
Sodium, Na .....	.174	.270	.248	.064	n. e.	.288
Sulphur, S .....	.313	.187	.083	n. e.	n. e.	n. e.
Nitrogen, N	2.20	2.280	.963	.288	n. e.	n. e.
Protein (Nx6.25)	13.75	14.25	6.020	1.800	n. e.	n. e.
Ether ext (fat)		3.440	1.730	.842	n. e.	n. e.

TABLE. II. A COMPARISON OF THE ANALYSIS OF CANE LEAVES WITH OTHER IMPORTANT FORAGE CROPS

	Cane Leaves	Blue- grass	Timo thy	Red Top	Orchard Grass	Corn Stover	Red Clover	Alfalfa
Ash	8.56	7.61	4.45	6.31	5.29	5.54	8.48	9.62
Iron	0.019	0.032	0.011	0.011	0.017	0.016	0.25	0.014
Calcium	0.456	0.39	0.313	0.321	0.239	0.390	1.89	2.340
Magnesium	0.310	0.25	0.199	0.164	0.243	0.280	0.278	0.259
Phosphorus	0.207	0.24	0.111	0.143	0.130	0.120	0.167	0.5156
Nitrogen	2.20	2.22	1.18	1.10	1.04	0.79	2.27	2.270
Potassium	1.100	1.94	1.47	1.69	2.10	1.170	1.55	1.810
Protein	13.75	13.88	7.37	6.87	6.50	4.95	14.18	17.00

COMMENTS ON THE ANALYSES

The results of the analyses of the different parts of the cane plant reveal some points of interest. It is to be observed that the leaves are relatively high in ash, in fact they contain as much as most of the forage grasses such as timothy, redtop, bluegrass and corn fodder. The leaves also contain a good supply of calcium, magnesium, phosphorous, potassium, iron and nitrogen. The protein content of the leaves of cane is greater than that of the more common grasses which are generally used for forage crops. It is quite feasible that abandoned farm lands might be advantageously recovered from further erosion and their fertility improved by growing cane as a forage crop on them.

It is therefore apparent that the cane plant afforded a highly nutritious food, particularly in the leaves, and to a less extent in the branches and young shoots, and because of this fact large numbers of wild herbivorous animals were attracted in prehistoric times to the cane lands in the region south of the Ohio River.

Moreover it is quite reasonable and altogether fitting and proper, could the legend be more firmly established, that Kentucky derived its name from the numerous canebrakes and flocks of wild turkeys which abounded in great numbers in this part of the country during prehistoric and pioneer times.

LITERATURE CITED

1. McHARGUE, J. S.
1926 Kentucky bluegrass, whence did it come? *Trans. Kentucky Acad. Sci.*, vol. 2, pp. 179-190.
2. McHARGUE, J. S., E. S. HILL, and W. A. ANDERSON
1927-28 Canebrakes of Kentucky in prehistoric time and the importance of cane as a forage plant. *Trans. Kentucky Acad. Sci.*, vol. 3, pp. 71-73.
3. WALKER, DR. THOMAS, 1715-1794, by Josiah Stoddard Johnston, 1833-1913. *Filson Club Pub.* no. 13.
4. FINLEY, JOHN
Collins History of Kentucky.
5. FINLEY, JOHN and H. A. BRUCE
Daniel Boone and the Wilderness, p. 65.
6. FILSON CLUB PUBLICATION, no. 13.
7. TODD, LEVI.
Narrative of transactions in Kentucky from 1774 to 1777.
(See Judge Samuel Wilson, Bluegrass is native product, in *Lexington Leader*, 1925.)
8. FILSON, JOHN
1784 First History of Kentucky.
9. FINLEY, JAMES B.
1854 Autobiography, p. 39.
10. ROGERS, JAMES R.
The Cane Ridge Meeting House. To which is appended the Autobiography of Barton W. Stone and a sketch of David Purviance.
11. IMLAY
1793 A topographical description of the Western Territory of North America.
12. WYMORE, JOHN, JR.
Interview. Draper Mss. no. 11CC. pp. 128-132. In State Historical Society, Madison, Wisconsin.
13. STICKNEY, WILLIAM
1872 Autobiography of Amos Kendall.
14. DANDRIDGE, DANSKE
1909 Major George Michael Bedinger, a Kentucky pioneer, 1778.
15. KILLEBREW, J. B.
1878 Grasses, cereals, and forage plants of Tennessee.

J. S. McHARGUE,
Head of Department of Chemistry,
Kentucky Agricultural Experiment Station,
Lexington, Kentucky.

SMITHSONIAN INSTITUTION LIBRARIES



3 9088 01429 4821

SMITHSONIAN INSTITUTION LIBRARIES



3 9088 01429 4821